

36. INTRA-ARTICULAR ADMINISTRATION OF KETOROLAC, MORPHINE AND ROPIVACAINE COMBINED WITH PATIENT CONTROLLED REGIONAL ANALGESIA (PCRA) FOR PAIN RELIEF DURING SHOULDER SURGERY

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Introduction: A bolus dose of ketorolac with morphine and local anesthetic and patient controlled regional analgesia (PCRA) by catheter technique in the operating area has been reported to give good postoperative pain relief (1,2). In this study a combination of these two methods are evaluated.

Methods: Twenty ASA I-II patients (18-59 years of age) undergoing open arthroscopic shoulder surgery (Bankart) were randomized in two groups double blind. In group 1, 30 mg ketorolac, 4 mg morphine and 9 ml 1 % ropivacaine (total 20 ml) was given via tunnelled epidural catheter intra-articularly and 1 ml saline i.v. In group 2, 20 ml saline was injected in the epidural catheter and 30 mg ketorolac (1 ml) was administered i.v. All patients were given paracetamol, 1 g x 4. Pain was measured on Visual Analogue Scale. When the patients had postoperative pain they could use Home-pump® (I-Flow corporation, Lake forest, CA, USA) which is an elastometric ballon pump filled with a 100 ml 0.5 % ropivacaine or saline. A simple procedure of opening a clamp allowed the patients to self-administer a described dose (10 ml) of local anesthetic or saline. Time to first request of local anesthetic infusion and pain score before and 20 min after the local administration was recorded. Postoperatively during the first 24 hours the pain intensity and morphine and oral analgesic consumption was evaluated. During day 1, 2, 3 and 7 the patients were asked about Activities of Daily Living ADL (Table 1).

Results: One patient in group 1 was excluded due to unpleasant numbness of fingers. Pain relief at rest and on movement was significantly higher in group 1 than in group 2 during the first 60 and 90 minutes ($p < 0.05$). Pain score was lower 30 min after the Home pump infusion in both groups but ropivacaine produce a significantly better pain relief than saline infusion ($p < 0.009$). Total dose of morphine consumption was 2 mg in group 1 compared with 53.5 mg in group 2 ($p < 0.0001$). The questionnaire revealed that patients in group 2 had more pain during the night and more difficulty in dressing during the first 3 postoperative days than patients in group 1, but there were no significant differences.

Rawal N, Axelsson K, Hylander, et al. *Anesth Analg* 1998;86:86-9.

Gupta A, Axelsson K, Allvin R, et al. *Reg Anesth Pain Med* 1999;24:225-30.

	Day 1	Day 1	Day 2	Day 2	Day 3	Day 3	Day 7	Day 7
Group	1	2	1	2	1	2	1	2
Did you wake up at night due to pain?	-	-	6/9	8/9	3/9	6/9	4/8	5/9
Concentration difficulties?	1/9	4/9	2/9	2/9	1/9	3/9	2/9	2/9
Was it difficult to dress?	3/9	7/9	3/9	7/9	3/9	6/9	3/9	1/9
When did you feel that you were fit for work?	-	-	-	-	1/9	0/9	3/9	1/9